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Innovative methods and technologies of training specialists in the conditions of postgraduate pedagogical education

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Abstract

In the context of postgraduate pedagogical education reform, transition to multi-level training of teachers, ensuring competitiveness of specialists in a reasonable labor market, issue of preparing future teachers for professional and pedagogical activities is very relevant. Since the Republic of Kazakhstan joined ranks of independent States, changes in public awareness, along with all its areas have increased the requirements for the level of teachers' professionalism, achievements in science and industry, and introduction of advanced technologies. In education of a person who meets the new requirements of society, as a factor in ensuring national security, we consider the training of creative teachers who think innovatively, make complex pedagogical decisions, formulate problems, and change their stereotypes. The research uses interview to collect data on the topic. The study discusses the benefits of the undergraduate, masters and PhD programs.

Keywords: design training technology; hardware platforms; modern technologies; SAS-study.

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1. Introduction

Nowadays, intensive changes are taking place in all spheres of society, and a new way of life is being built every year (Tezer & Aynas, 2018). A particularly important factor in ensuring national security is considered to be the training of creative teachers-specialists who can transform their stereotypes, formulate problems, perceive difficult pedagogical solutions, and think innovatively in educating a person who meets the new requirements of society (Bartek & Bartkova, 2018; Moghadamizad, Mowlaie & Rahimi, 2020).

Aims of higher education

preparation of a new formation of specialists who have mastered the basic disciplines and meet the new requirements of labor market and technology;

- formation of motivation for the entire higher education system by democratizing the educational process and improving the quality of education;

- formation of new principles and practices of University management, implementation of strategic planning and increasing its autonomy;

- ensuring the quality of higher and postgraduate education.

Since master's education is focused on the "product " of comprehensive knowledge, which is a combination of theoretical knowledge, practice, and the level of career achievements, it allows students to become competitive professionals (Welch, 2010; Rosli & Suib, 2020). The analysis of foreign and domestic experience of postgraduate education allowed us to identify several conditional models for the implementation of the master's program. One of them is the traditional model based on a unified educational program, which includes a bachelor's degree program in the field, a professional education profile and a specialized master's program. We develop an innovative model based on the master's program based and on the basic bachelor's program. This model allows you to train specialists in rare but very important specialties in complex areas (Karasheva et al., 2021).

Literature review

The master's program provides a set of general and special competencies that must be mastered at each stage of higher education in accordance with the current needs of specialized research or applied areas (Ciburiene et al., 2019). Currently, there are two main types of competencies that allow you to become a specialist in any field in accordance with modern requirements. These are "subject" and "sub-subject meta-disciplinary" competencies in particular, "subject" competence refers to the knowledge and skills needed to master a specific subject or specific area, while "sub-subject" competence refers to a person's ability to use and develop their knowledge, information, communication, and ability to work together, such as managerial skills (Yesnazar et al., 2020).

Master's education entered our country as a result of the influence of democratic processes and the integration of knowledge into the world space (Rizzetto, Ricci & Marinov, 2019). In 1998, 4 countries in Western Europe (Germany, Italy, France, great Britain) adopted the Sorbonne Declaration on the harmonization of educational systems and structures, and in 1999 education representatives from about 30 European countries signed the Bologna Declaration. Kazakhstan was guided by the Lisbon Convention of 1997, which is a valuable solution for integrating the system of postgraduate education at the international level, and decided to use the education system rationally. This is due to the fact that the main feature of modern methods of professional education is its continuity, continuous professional development, and lifelong learning (LLL). The Bologna Declaration focuses on this issue (Anthony et al., 2020; Arante, Sacay, Bocboc & Baisa, 2020).

On March 11-12, 2010, at the II Bologna forum of Ministers of Education of the Bologna process (Budapest, Hungary and Vienna, Austria), Kazakhstan joined the Bologna Declaration and became the 47th participant in the Bologna process. Thus, Kazakhstan has taken on the task of harmonizing higher education in accordance with European requirements, that is, it has become a full participant in radical

international integration processes (Kubieva et al., 2021). Our country's accession to the Bologna process fully meets the new requirements of domestic education and the political and economic choice of the Republic. This is considered a good step to improve the quality of education and competitiveness. The two-stage model, called master's and doctoral (PhD), is used in universities in many European countries, the United States and Australia. It is the most flexible and effective, since it ensures continuity of the postgraduate study process, academic mobility and demand for graduates in the conditions of rapid changes in labor market.

In Western Europe and the United States, a set of theories and platforms for vocational education and training as a social service has been developed. They are considered in two directions: rational (authoritarian, technocratic) and humane. Supporters of rational orientation- the task of the educational system of educational organizations and societies is to form a "functional" person who is able to successfully perform the appropriate social roles (citizen, employee, family, consumer, etc.) in this social system.

The definition of the quality of professional training corresponds to the concept of "competence", which characterizes professional knowledge, skills, and personal qualities (cooperation, communication skills, ability to work in a team, etc.). Humane model of professional education is directly related to the name of the American scientist Carl Rogers. It makes a person mentally, socially, professionally, and so on. Recognizing the importance of development in this direction, everyone believes that it is necessary to give priority to development of the individual, formation of a"full-fledged person". It is believed that the source and driving force of personal development and growth is a person (Marga, 2004).

There are two types of Master's Degree programs at universities in Great Britain and Ireland. For example, Master's Degree program in the UK: focuses on professional development and research programs. Curriculum are usually limited to 12 months of full-time study. In the first 6-9 months, undergraduates study in depth the disciplines of their choice, the rest of time they are engaged in research and prepare PhD theses. The curriculum includes compulsory subjects (on General issues of scientific knowledge and research methodology) and disciplines related to the specialty. Research work in the summer is given 3-4 months, the volume of the master's thesis - 10-15 thousand words. According to the results of examination and diploma defense, M. Phil (master of philosophy) is awarded the master of philosophy degree. It should be noted that this degree is obtained in 1-2 years after completion of independent research work under the supervision of a scientific supervisor.

Master's degree in the United States is a two-year master's degree program that is common to all American universities. Most universities provide higher education in a two-level structure. Only some of the campuses at major universities are called research universities (Andegiorgis, 2019). To do this, they develop master's and doctoral programs. Higher education in the United States is based on the principles of academic freedom, which meet the requirements of the market and the fundamental direction of education. The entire system of academic degrees meets these principles: bachelor - master-doctor of philosophy (PhD). We distinguish differences in our educational programs into two types: professional orientation programs and research programs (Tashkenbayevna et al., 2018).

Master's degree in Great Britain and Ireland is less than a year, and education in the British Isles is equivalent to education in the United States, despite the "narrow" specialization. These differences are also observed at the undergraduate level (an American student does not need to choose a specialty until the 3rd year) and the professional master's degree (subjects that are common to the specialty in the first year, and "narrow" specialized subjects are taught in the second year) (Sabirova 2006; Andegiorgis, 2020).

French higher education system is characterized by multi-level, differentiated and fully specialized areas of study (Chen, Demailly, Laurent & Brown, 2021). It has a complex structure and is formed in classical types of universities, higher education institutions, schools of art, architecture and specialties. French universities create a training structure " License (3 years of study) + Master's degree (2 years of study) + Doctorate (3 years of study)" and develop a unique experience of preparing undergraduates for research work. In 2003, in the journals "Nouvel Observater" and "Vie universitare" from the point of view

of the scientific community, connection between educational and research processes, quantity and quality of research at the University is especially important for the successful development of modern universities.

On the one hand, organization and conduct of scientific research in French universities is an important part of the educational process of undergraduates and determines the specifics of the Master's degree and University, on the other hand, research in higher education increases its status as a research activity and forms a scientific culture (Chen, Demailly, Laurent & Brown, 2021). The partnership of French universities with various research organizations, centers and institutes contributes to the organization of relevant research programs and allows for the diversification of research areas in various professional fields.

Since 2002, master's education in France is carried out in two directions: scientific and professional. This organizational approach is determined by the development of modern science: new branches of science are emerging, and the number of interdisciplinary research is increasing. In Master's program, student must choose a professional or research direction, as well as the right to change direction of research and training. A Master's degree in the field of research allows the graduate to enroll in a doctoral program. Master's degree develops the researcher's competence in a specific professional field and in the chosen field of activity.

In the Master's program of French universities, special attention is paid to teaching research methods and writing a master's thesis (Welch, 2010). French students conduct a variety of research in terms of complexity, scope and content (Chen, Demailly, Laurent & Brown, 2021). There are three types of such research: "Memoire d'etude" - training in the first year of the Master's degree, "Memoire de Recheche" - research and "Recollection of professionalism" - research in the second year of the master's degree for scientific and professional fields (Lavrentieva, 2007).In France, there is a tendency to organize bachelor's degree programs in several educational institutions. For example, one module is taught at one University in France, and another module is taught at another University or research center. This means that internal academic mobility is well developed.

The principle of higher education in Germany-academic freedom-is a system that allows you to independently determine the list of subjects that are included in the diploma. In Germany, the educational process in this higher education system is carried out in parallel with scientific research. These features determine the schedule of educational process, each semester of which consists of lectures (14-20 weeks) and non-lecture periods, during which the student is engaged in independent research. For undergraduates, obtaining a Master's degree is an academic education in the field of Humanities (Inozemtseva, 2000).

When preparing Masters' in Russia in the 90-ies of the XX century, Master's degree has reappeared

and requires high mobility and continuous education from a modern specialist. Thus, in Russia, Master's degree is defined as a stage of a multi-stage system of training of scientific and scientific-pedagogical personnel (Welch, 2010). The conceptual framework and goals of Master's training are based on the concepts of continuity and continuity of stages of educational process, multilevel education, and relationship of programs. Here the concept of "multilevel" is explained as a step-by-step organization of the educational process. And "continuity" of education is explained as learning and self-education throughout life (Yehya, 2020). For example, a graduate of a master's degree in "Pedagogy" should be ready to study psychological and pedagogical problems of higher education, to pedagogical and scientific activities in higher educational institutions.

Master of pedagogy to solve educational and research tasks focused on research work in a particular discipline; use modern technologies for the selection, processing and interpretation of practical knowledge; master modern research methods; analyze the results of training in various educational institutions; introduce new content of disciplines in teaching practice; be ready to diagnose the level of education. Students in this field are prepared to perform the following professional activities according to

their skill level (Kalashi, Bakhshalipour, Azizi & Sareshkeh, 2020):

- research;
- training;
- correctional and developmental;
- consulting;
- cultural and educational;
- organizational and educational;
- socio-pedagogical.

At the stage of reforming the higher education system in the city of Pesi, process of preparing masters is considered a priority, since Master's Degree:

- contributes to the maximum use of scientific and pedagogical potential of University, encourages creative, scientific and methodological activities;

- contributes to a rapid response to the needs of the economy, industry, science and education. Allows undergraduates to adapt to their future professional activities in the process of differentiated study of Master's programs;

- contributes to the creation of effective mechanisms for the development of University faculties and training of new scientific and pedagogical personnel in connection with the modernization of content of education (Seisenbayeva et al., 2019).

Thus, process of introducing master's degree system into the Russian education system allows research-oriented students to undergo in-depth theoretical training in a specific field (Welch, 2010). Upon completion of the postgraduate education system, a young specialist can freely navigate in the field of education in their specialty, discover a new idea of an interdisciplinary nature, be able to achieve certain achievements in science and will be in demand for their specialty even after leaving science.

Today, the name of the educational methodology is called learning technology. Modern educational technologies are widely used today in accordance with modern requirements (Carraro & Trinder, 2021). In the end, it is necessary to consider the new methods used in modern education as a modern approach to traditional methods. Innovative teachers combine traditional approaches with new technologies and creatively organize the lesson effectively and efficiently, the main form of teaching lessons. This was made possible through the use of different methods by the teacher. Below are the following types of lessons in the overall process of training: introductory lesson; a Lesson on the explanation of new learning material; Guidance lessons; synthetic lessons; Reading lesson analysis of the text; the lessons explore some of the additional material; the last lessons depending on the specific characteristics of each object, the types of lessons differ (Kazhgaliyeva et al., 2020).

Only when a teacher learns the technology of adult learning, his business becomes productive. It is necessary to have such skills as active teaching methods and assessment, the ability to correct and make changes to the plan, and the ability to organize independent educational work. Among the educational technologies for undergraduates in the context of postgraduate pedagogical education, "project learning technology" is one of the most effective methods. After all, the technology of project learning directly affects the humanization of a teacher as an individual, forming intellectual, professional, moral, spiritual, civic and other qualitative qualities, and contributes to the formation of a student's personality. In the course of Project training, the educational process is carried out on an equal basis with the teacher, taking into account the age and individual characteristics of the student.

Today, the case-study method, which has become one of the most effective methods of obtaining knowledge in economic and social specialties, encourages students who have received theoretical

knowledge to take actions based on the practice of the future profession. CAS-study is one of the most effective methods for developing choice and decision-making skills. Today, digital technologies have played an important role in the development of the economy of many countries (Marzano, Usca & Lubkina, 2020). As you know, the XXI century is the century of informatization. The future of our state in the age of informatization technology – providing modern knowledge to the younger generation and promoting its comprehensive development requires creative search and great demand from teachers. The process of learning through computers and information technologies forms the ability of students to think in a new way, pushes them to find systematic connections and patterns, and as a result – to form their professional potential.

When it comes to technology and computing, the platform is the foundation for hardware and software development and support. Everything in the upper part of the foundation works in the same circle. Thus, each platform has its own set of rules, standards, and restrictions that determine which hardware / software to create and how each one should work.

Hardware platforms:

* All systems

* Individual content

* Interfaces

Compared to hardware platforms, software platforms are broader, but more easily accessible to users. While hardware (such as mice, keyboards, monitors, touch screens) can help reduce the difference, it makes sense if we often interact with software / programs. Software platforms fall into the general category of the following categories::

* System software

* Application programs

Today, we offer 5 online platforms that are convenient for building relationships in the process of studying and working.

1. Zoom

2. Microsoft Teams

3. Google Classroom

4. Google Hangouts

5. ClickMeeting .

The digital educational resource cannot replace the teacher, but provides the teacher with additional materials, that is, it is necessary to supplement the content of the lesson with new multimedia capabilities of information and communication technologies, to draw students 'attention to the most important educational topics, if necessary, to focus students' attention on the features of the studied manifestations, to present it visually, the content of the lesson with changes taking place in society, life experiences, students ' interest in the subject, etc. it allows you to provide a link with phenomena.

We find that this difference is more difficult when comparing the education system in the United States with the education system in the United Kingdom. After all, in the UK, any bachelor can start writing a dissertation (master's thesis), and American bachelors are only allowed to write a dissertation if they have high scores in specialized disciplines, and sometimes have the opportunity to conduct research through research and scientific publications. It is also important to have recommendations from the teaching staff. The student writes an application for permission to start Master's work. This rule is only observed in some universities. If the research is not completed and submitted to the appropriate authorities, student will receive a master's degree in philosophy or a PhD in philosophy. If the candidate's

dissertation is ready and accepted, the candidate of philosophy will be awarded degree of doctor of philosophy, depending on the specialty.

Communication is a purposeful and unique system of information and energy processes, during which there is an exchange of cognitive and emotional evaluative nature information, which provides interaction, mutual understanding. Depending on the situation, relationships can develop in different aspects: as a special type of activity, as a condition of activity, as a part of activity, as a tool, as an interaction, as a relationship, as an independent activity, as a basis for intellectual and moral development (Nuriyev, Sovetkanova & Seysenbayeva, 2018).

According to Article 36 of the Republic of Kazakhstan's Law "On Education", postgraduate education is the highest level of continuing education .To integrate Kazakhstan's education system into the international educational space, following stages of higher and postgraduate education have been introduced in the Republic of Kazakhstan:

- Bachelor's degree - a first-level program (the first level after secondary education) that lasts up to 4 years.

- Master's degree - a second-level program (the second level after secondary education) that lasts up to 2 years and is carried out in two trajectories: in-depth specialized training and scientific and pedagogical training;

- doctoral program - a program of the second level (the third level after secondary education), postgraduate education lasting 3-4 years, which is carried out in two trajectories: profile doctoral and scientific doctoral.

The content of the bachelor's program includes a wide range of basic professional training, purpose of which is to prepare a bachelor who has mastered fundamental subject content of a generalized comprehensive methodology of professional activity. Preparation for the master's degree in Kazakhstan is carried out in two directions:

- specialized training 1-1.5 years;

- term of preparation for scientific and pedagogical training - 2 years.

The specialized master's program implements educational programs that prepare specialists in the field of pedagogy and psychology with in-depth professional training. The educational programs of the specialized master's degree are characterized by applied nature of training in the process of specialized training, undergraduates are able to develop and improve themselves, form the ability to creatively master new knowledge independently; master a high level of professional culture; study organizational skills and conduct research. Various Master's Programs are implemented in the country's universities, depending on the period and direction of study. They are chosen by each University. Specialists are trained in interdisciplinary programs, especially in the fields of Economics, Business, International Relations, Medicine and Education.

In the course of scientific and pedagogical training, undergraduates undergo professional practice and engage in research activities. It should be noted that in the process of implementing the master's training system in Kazakhstan, life makes its own adjustments. In particular, implementation of programs for students undergoing internships abroad, dual degrees, and academic mobility. At the same time, paradigm of higher education has changed from "learning" to "learning". In our time, a person is not "taught", on the contrary, a person "reads". In accordance with this paradigm, a person is trained throughout his life, and the University provides assistance within a certain framework in accordance with interests. Despite the diversity of education systems in Kazakhstan and abroad, different approaches and differences in its structuring and inauguration (awarding of academic degrees), there is a tendency to differentiate training.

Successful integration into the international educational space is one of the main tasks of Kazakhstan's education system development. In accordance with the State program for the development

of education in the Republic of Kazakhstan for 2011-2020, adopted in this direction, the ways of modernization of national system of multi-level education are defined. The state program emphasizes the need to create conditions for academic mobility of students, full realization of their personal potential and officially announces the creation of a variable program that provides individualization of students' educational activities, personality-oriented training and education. One of the priorities of this program is to improve the quality of training of professionally competent, competitive specialists who are able to solve professional problems independently, creatively, and understand the personal and social significance of their professional activities. At the same time, the main goal of state program for development of education in the Republic of Kazakhstan for 2011-2020 is to develop human capital by providing access to quality education for sustainable economic development, improving the competitiveness of education, meeting the needs of the labor market, industrial and innovative development. Achieving a high level of quality of higher education that is satisfactory and consistent with international best practice in education .

In annual Addresses to the people of Kazakhstan the President emphasizes the paramount value of the modern education system, corresponding to the requirements of economic and public modernization. Education reform, which aim is the achievement of the quality on the provided educational high-quality services at the level of the international standards, is one of the major instruments, allowing to provide real competitiveness of Kazakhstan in the global world (Sovetkanova et al., 2019).

In accordance with the Strategic development plan of the Republic of Kazakhstan until 2020 to achieve strategic goals in the field of higher, postgraduate education and science, quality of higher education in Kazakhstan by 2020 corresponds to the best international practices in the field of education must be in demand. This strategic development plan also identifies human resource development as one of the country's priorities.

Master's degree of the University as a special type of pedagogical system along with the main program of additional professional education called "higher school teacher" raises the question of purposeful development of pedagogical activity of University teachers by students. The research component plays a leading role in the structure of their teaching activities. The research work of undergraduates is aimed at implementing their comprehensive practice-oriented programs aimed at solving any pedagogical problem that is solved by specific schools and universities in the city. In their own actions, they must define the research problem, specify the topic, formulate its purpose, objectives, subject, form, forecast, determine the stages of work, determine the basis of the experiment. Thus, the main goal of theoretical courses taught in master's program is to help each student identify the components of the research, reveal their content, and meet the interests and requirements of undergraduates in context of the problem.

In this regard, the main task becomes not only the problem on specification of the concept of subjectivity, but also identification of positive aspects of this category, studying of the nature of its development in the synthesis of the cross-disciplinary matrix of knowledge on different sciences: philosophies, psychology, pedagogy, sociology, culturology, etc. The idea of subjectivity in professional education focuses teachers on creation for each student of the individualized conditions which are capable to provide integrity and effectiveness of the process of his personal and professional development (Bagila et al., 2019).

Higher education is closely related to the formation of skills, values and social attitudes in accordance with the future social and professional goals of a person. The results of Master's programs analysis of a number of universities in the country show that Master's program in Kazakhstan is still developing, there are still organizational issues, such as formation of relevant educational programs' content and their methodological support. Now let's talk about them.

Institute of Master's and Doctoral studies of Abai Kazakh National Pedagogical University trains masters in 46 specialties. According to the curriculum, 34 subjects were spent on teaching disciplines included in the theoretical component, and 11 credits were allocated for the research component disciplines. Let's analyze the curriculum for the specialty 6M010300 - "Pedagogy and Psychology". In Abay

KazNPU: "Research Methodology and methodology", "Interactive learning in higher education", "Management Psychology", "Communication Culture and Pedagogical ethics", "Main directions of applied psychology»;

- at Korkyt ATA KSU: "Modern educational technologies", "Psychological literacy and teacher competence", "Ethics and psychology of business relations", "Methods of teaching pedagogical disciplines in higher school", "teaching psychological disciplines in higher school", "Methods", "quality management System in education", " Planning and organization of research»;

- at Shakarim University: "Psychological and pedagogical methodology and methodology for preparing future specialists for professional activity", "Methodology and methodology of pedagogical research", "Fundamentals of socio-psychological training", "communication Culture and business literature", "Education" quality management system", "management Psychology", " Humanization and humanization of education »;

- at K. Zhubanov Aktobe Regional University: "Fundamentals of pedagogical skills", "Organizational psychology", "Methods of teaching pedagogical disciplines in higher education", "Theory and practice of teaching" they have a certain influence on the effectiveness of the problem we are considering.

Success of a future specialist in the course of professional activity depends on the degree of development of his research skills. In this case, the research work of undergraduates (TRO), research practice plays an important role. SRWS is a synthesis of research and extracurricular research work for students, as well as research and organizational work. The main principle of organization of the R & D system at the University is to ensure its complexity. The main goal of the research is to develop the creative activity of undergraduates by developing a complex of scientific knowledge and skills. Educational and research work of undergraduates allows you to turn the educational process into an active cognitive activity, develop creative thinking, and master research skills. Thus, educational research (GC and TC) and research work of undergraduates is a single process, but they differ in their degree of independence. In teaching practice, undergraduates use their knowledge, skills, and abilities in teaching methods. «In the course of research practice, modern research methods are used for the presentation of scientific data and their processing, presentation of experimental data and new theoretical, methodological and technological achievements of domestic and foreign science in preparation of a Master's thesis» (Agranovich et al., 2019).

2. Materials and Methods

The research made use of interviews in the data collection stage of the study. The sample for the study was taken from National Universities in the Republic of Kazakhstan. Twenty-five undergraduate students of Pedagogy and Psychology, thirteen (13) undergraduate students of Primary school teaching methods, and twenty-eight (28) undergraduate students of Defectology were selected as participants for the study. The participants were selected from three universities in the republic of Kazakhstan; Abay Kazakh National University, Korkyt ATA Kyzylorda State University, Shakarim University in Semey, K. Zhubanov Aktobe Regional University. The questions for the interview were carefully selected to reflect the topic under discussion, after carefully going through past literature. The results of the discussion were discussed after.

3. Results

Specialty 6M010300-Pedagogy and psychology in Abay Kazakh National University, Korkyt ATA Kyzylorda State University, Shakarim University in Semey, K. Zhubanov Aktobe Regional University one of the features of working curriculum of the is that the course work is performed on the module of research work. The main reason for this is that in the second half of the first year of study in all specialties, undergraduates perform coursework on a specific topic selected in accordance with their research topics.

So our goal is to interview students to see how ready they are for adulthood:

Questionnaire	Pedagogy, psychology (25 undergraduates)	Primary school teaching methods (13 undergraduates)	Defectology (28 undergraduates)
Have you heard the term "Andragogy" before?	10	8	15
Do you know what an adult is?	Mature	Responsible	immature
At what age does it start?	18-20s	20-25s	17-22s
What qualities should an adult have?	ĸesponsible, able to make decisions	Persistent, responsible	responsible
Do you consider yourself an adult?	23-yes 2-no	13-yes	22-yes 6-no

As a result, the first-year student has the opportunity to draw some conclusions about theoretical part of his/her master's thesis. A group of students studying at this University participate in research projects funded by the Ministry of Education and Science of the Republic of Kazakhstan and funded by the University's rector. In addition, in the 1st semester of the master's program for 6M010300-"Pedagogy and Psychology" of the Institute of master's and doctoral studies of Abay Kazakh National Pedagogical University, an elective component is taught a subject called "Methodology and Research Methods". Teaching this subject in the 1st semester of the academic year will allow future specialists to complete the theoretical part of master's work through coursework at the end of the 1st year, and fully complete a master's thesis in the 3rd semester of the 2nd year.

To make this practical, Korkyt ATA Kyzylorda State University, Shakarim University in Semey, K. Zhubanov Aktobe Regional University as an elective subject, have as part of the curriculum in the 1st semester of the academic year a subjects titled "mathematical processing of results of scientific and pedagogical experiment" (Kyzylorda)," theoretical and methodological foundations of pedagogy "(Semey)," methodology and methodology of pedagogical research " (Aktobe).

4. Conclusion

As a result of teaching these disciplines, undergraduates become competent specialists in the field of research methodology, scientific and scientific-pedagogical activities in the field of higher education, modern educational technologies, research projects and research in the professional sphere. Thus, it is planned to form various competencies for undergraduates:in teaching - ability to use modern methods and technologies for the organization and implementation of educational process at different levels of education;

- in research activities - ability to analyze research results and apply them in solving specific educational and research tasks; readiness to conduct independent research using modern methods of science;

- in methodological activities - ability to develop and implement training methods, technologies and approaches and analyze their results as a result of their application.

As a result of preparing and defending a master's thesis in the pre-graduate period, training indicators are formed that meet the requirements and level of training of masters provided by the state standard.

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